PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

January 02, 2013

Mitchell Mysliwiec
Larry Walker Associates
707 Fourth Street
Suite 200
Davis, CA 95616-

Project Name: Machado Lake Nutrients TMDL Sampling
Physis Project ID: 1206006-003

Dear Mitchell,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 12/13/2012. A total of 6 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Suspended Solids by SM 2540 D
Total Phosphorus by SM 4500-P E
Total Orthophosphate (as P) by SM 4500-P E
Total Dissolved Solids by SM 2540 C
Total Dissolved Phosphorus by SM 4500-P E
Nitrite by EPA 300.0
Nitrate by EPA 300.0
Ammonia by SM 4500-NH3 D
Subcontract
Total Kjeldahl Nitrogen by EPA 353.2

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

MATRIX SPIKES: MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

BLANK SPIKES: BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

CERTIFIED REFERENCE MATERIALS: CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

SURROGATES: Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's

concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	*DEFINITION*
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

ANALYTICAL REPORT

PHYSIS
TERRA FAUNA FLORA AQUA AURA
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Innovative Solutions for Nature
1904 E. Wright Circle, Anaheim CA 92806 main: (714) 602-5320 fax: (714) 602-5321 www.physislabs.com info@physislabs.com CA ELAP #2769

Conventionals ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 18489-R1	**MLMRP-003-10_ACAD-01 MS/MSD= No o**	**Matrix: Surface water**		**Sampled: 13-Dec-12**	**8:22**	**Received: 13-Dec-12**
	Method: EPA 300.0	Batch ID: C-10037		Prepared: 13-Dec-12		Analyzed: 13-Dec-12
Nitrate-N by IC	NA	1.09	0.01	0.05	mg/L	
Nitrite-N by IC	NA	0.03	0.01	0.05	mg/L	J
	Method: SM 4500-P E	Batch ID: C-10038		Prepared: 14-Dec-12		Analyzed: 14-Dec-12
Total Orthophosphate as P	NA	0.41	0.01	0.02	mg/L	
	Method: SM 2540 C	Batch ID: C-10041		Prepared: 14-Dec-12		Analyzed: 17-Dec-12
Total Dissolved Solids	NA	223.3	0.1	5	mg/L	
	Method: SM 4500-NH3 D	Batch ID: C-10044		Prepared: 19-Dec-12		Analyzed: 19-Dec-12
Ammonia-N	NA	0.24	0.02	0.06	mg/L	
	Method: SM 2540 D	Batch ID: C-10048		Prepared: 17-Dec-12		Analyzed: 18-Dec-12
Total Suspended Solids	NA	32.2	0.5	1	mg/L	
	Method: SM 4500-P E	Batch ID: C-10052		Prepared: 21-Dec-12		Analyzed: 26-Dec-12
Total Dissolved Phosphorus	NA	0.322	0.016	0.05	mg/L	
Total Phosphorus	NA	0.45	0.016	0.05	mg/L	
Sample ID: 18490-R1	**MLMRP-003-30_VAND-02**	**Matrix: Surface water**		**Sampled: 13-Dec-12**	**8:57**	**Received: 13-Dec-12**
	Method: EPA 300.0	Batch ID: C-10037		Prepared: 13-Dec-12		Analyzed: 13-Dec-12
Nitrate-N by IC	NA	2.12	0.01	0.05	mg/L	
Nitrite-N by IC	NA	0.14	0.01	0.05	mg/L	
	Method: SM 4500-P E	Batch ID: C-10038		Prepared: 14-Dec-12		Analyzed: 14-Dec-12
Total Orthophosphate as P	NA	0.43	0.01	0.02	mg/L	
	Method: SM 2540 C	Batch ID: C-10041		Prepared: 14-Dec-12		Analyzed: 17-Dec-12
Total Dissolved Solids	NA	156.7	0.1	5	mg/L	
	Method: SM 4500-NH3 D	Batch ID: C-10044		Prepared: 19-Dec-12		Analyzed: 19-Dec-12
Ammonia-N	NA	0.61	0.02	0.06	mg/L	
	Method: SM 2540 D	Batch ID: C-10048		Prepared: 17-Dec-12		Analyzed: 18-Dec-12
Total Suspended Solids	NA	35.9	0.5	1	mg/L	
	Method: SM 4500-P E	Batch ID: C-10052		Prepared: 21-Dec-12		Analyzed: 26-Dec-12
Total Dissolved Phosphorus	NA	0.363	0.016	0.05	mg/L	
Total Phosphorus	NA	0.489	0.016	0.05	mg/L	

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Conventionals ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 18491-R1	**MLMRP-003-TAHOE-03**	**Matrix: Surface water**		**Sampled: 13-Dec-12**	**8:50**	**Received: 13-Dec-12**
	Method: EPA 300.0	Batch ID: C-10037		Prepared: 13-Dec-12		Analyzed: 13-Dec-12
Nitrate-N by IC	NA	ND	0.01	0.05	mg/L	
Nitrite-N by IC	NA	ND	0.01	0.05	mg/L	
	Method: SM 4500-P E	Batch ID: C-10038		Prepared: 14-Dec-12		Analyzed: 14-Dec-12
Total Orthophosphate as P	NA	ND	0.01	0.02	mg/L	
	Method: SM 4500-P E	Batch ID: C-10052		Prepared: 21-Dec-12		Analyzed: 26-Dec-12
Total Dissolved Phosphorus	NA	ND	0.016	0.05	mg/L	
Sample ID: 18493-R1	**MLMRP-003-TAHOE-05**	**Matrix: Surface water**		**Sampled: 13-Dec-12**	**8:50**	**Received: 13-Dec-12**
	Method: SM 4500-NH3 D	Batch ID: C-10044		Prepared: 19-Dec-12		Analyzed: 19-Dec-12
Ammonia-N	NA	ND	0.02	0.06	mg/L	
	Method: SM 4500-P E	Batch ID: C-10052		Prepared: 21-Dec-12		Analyzed: 26-Dec-12
Total Phosphorus	NA	ND	0.016	0.05	mg/L	
Sample ID: 18494-R1	**MLMRP-003-DUPREE-06**	**Matrix: Surface water**		**Sampled: 13-Dec-12**	**8:27**	**Received: 13-Dec-12**
	Method: EPA 300.0	Batch ID: C-10037		Prepared: 13-Dec-12		Analyzed: 13-Dec-12
Nitrate-N by IC	NA	1.11	0.01	0.05	mg/L	
Nitrite-N by IC	NA	0.03	0.01	0.05	mg/L	J
	Method: SM 4500-P E	Batch ID: C-10038		Prepared: 14-Dec-12		Analyzed: 14-Dec-12
Total Orthophosphate as P	NA	0.39	0.01	0.02	mg/L	
	Method: SM 2540 C	Batch ID: C-10041		Prepared: 14-Dec-12		Analyzed: 17-Dec-12
Total Dissolved Solids	NA	224.4	0.1	5	mg/L	
	Method: SM 4500-NH3 D	Batch ID: C-10044		Prepared: 19-Dec-12		Analyzed: 19-Dec-12
Ammonia-N	NA	0.28	0.02	0.06	mg/L	
	Method: SM 2540 D	Batch ID: C-10048		Prepared: 17-Dec-12		Analyzed: 18-Dec-12
Total Suspended Solids	NA	29.7	0.5	1	mg/L	
	Method: SM 4500-P E	Batch ID: C-10052		Prepared: 21-Dec-12		Analyzed: 26-Dec-12
Total Dissolved Phosphorus	NA	0.32	0.016	0.05	mg/L	
Total Phosphorus	NA	0.415	0.016	0.05	mg/L	

QUALITY CONTROL REPORT

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Conventionals QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Ammonia-N			**Method: SM 4500-NH3 D**			**Fraction: NA**			**Prepared: 19-Dec-12**		**Analyzed: 19-Dec-12**		
18488-B1	QAQC Procedural Blank	C-10044	ND	0.02	0.06	mg/L							
18488-BS1	QAQC Procedural Blank	C-10044	0.25	0.02	0.06	mg/L	0.25	0	100	70 - 130% PASS			
18488-BS2	QAQC Procedural Blank	C-10044	0.25	0.02	0.06	mg/L	0.25	0	100	70 - 130% PASS	0	30 PASS	
18489-MS1	MLMRP-003-10_ACAD-0	C-10044	0.44	0.02	0.06	mg/L	0.25	0.24	80	70 - 130% PASS			
18489-MS2	MLMRP-003-10_ACAD-0	C-10044	0.46	0.02	0.06	mg/L	0.25	0.24	88	70 - 130% PASS	10	30 PASS	
18489-R2	MLMRP-003-10_ACAD-0	C-10044	0.24	0.02	0.06	mg/L					0	30 PASS	
Nitrate-N by IC			**Method: EPA 300.0**			**Fraction: NA**			**Prepared: 13-Dec-12**		**Analyzed: 13-Dec-12**		
18488-B1	QAQC Procedural Blank	C-10037	ND	0.01	0.05	mg/L							
18488-BS1	QAQC Procedural Blank	C-10037	0.1	0.01	0.05	mg/L	0.11	0	91	70 - 130% PASS			
18488-BS2	QAQC Procedural Blank	C-10037	0.1	0.01	0.05	mg/L	0.11	0	91	70 - 130% PASS	0	30 PASS	
18489-MS1	MLMRP-003-10_ACAD-0	C-10037	1.2	0.01	0.05	mg/L	0.11	1.09	100	70 - 130% PASS			
18489-MS2	MLMRP-003-10_ACAD-0	C-10037	1.21	0.01	0.05	mg/L	0.11	1.09	109	70 - 130% PASS	9	30 PASS	
18489-R2	MLMRP-003-10_ACAD-0	C-10037	1.09	0.01	0.05	mg/L					0	30 PASS	
Nitrite-N by IC			**Method: EPA 300.0**			**Fraction: NA**			**Prepared: 13-Dec-12**		**Analyzed: 13-Dec-12**		
18488-B1	QAQC Procedural Blank	C-10037	ND	0.01	0.05	mg/L							
18488-BS1	QAQC Procedural Blank	C-10037	0.14	0.01	0.05	mg/L	0.15	0	93	70 - 130% PASS			
18488-BS2	QAQC Procedural Blank	C-10037	0.14	0.01	0.05	mg/L	0.15	0	93	70 - 130% PASS	0	30 PASS	
18489-MS1	MLMRP-003-10_ACAD-0	C-10037	0.16	0.01	0.05	mg/L	0.15	0.03	87	70 - 130% PASS			
18489-MS2	MLMRP-003-10_ACAD-0	C-10037	0.16	0.01	0.05	mg/L	0.15	0.03	87	70 - 130% PASS	0	30 PASS	
18489-R2	MLMRP-003-10_ACAD-0	C-10037	0.03	0.01	0.05	mg/L					0	30 PASS	J
Total Dissolved Phosphorus			**Method: SM 4500-P E**			**Fraction: NA**			**Prepared: 21-Dec-12**		**Analyzed: 26-Dec-12**		
18488-B1	QAQC Procedural Blank	C-10052	ND	0.016	0.05	mg/L							
18488-BS1	QAQC Procedural Blank	C-10052	0.282	0.016	0.05	mg/L	0.3	0	94	70 - 130% PASS			
18488-BS2	QAQC Procedural Blank	C-10052	0.284	0.016	0.05	mg/L	0.3	0	95	70 - 130% PASS	1	30 PASS	
18489-MS1	MLMRP-003-10_ACAD-0	C-10052	0.59	0.016	0.05	mg/L	0.3	0.321	90	70 - 130% PASS			
18489-MS2	MLMRP-003-10_ACAD-0	C-10052	0.593	0.016	0.05	mg/L	0.3	0.321	91	70 - 130% PASS	1	30 PASS	
18489-R2	MLMRP-003-10_ACAD-0	C-10052	0.32	0.016	0.05	mg/L					1	30 PASS	

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Conventionals — QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Total Dissolved Solids			**Method: SM 2540 C**			**Fraction: NA**			**Prepared: 14-Dec-12**			**Analyzed: 17-Dec-12**		
18488-B1	QAQC Procedural Blank	C-10041	ND	0.1	5	mg/L								
18488-BS1	QAQC Procedural Blank	C-10041	25100	0.1	5	mg/L	24959	0	101	70 - 130%	PASS			
18488-BS2	QAQC Procedural Blank	C-10041	70060	0.1	5	mg/L	69684	0	101	70 - 130%	PASS	0	30 PASS	
18489-R2	MLMRP-003-10_ACAD-0	C-10041	226.7	0.1	5	mg/L						2	30 PASS	
Total Orthophosphate as P			**Method: SM 4500-P E**			**Fraction: NA**			**Prepared: 14-Dec-12**			**Analyzed: 14-Dec-12**		
18488-B1	QAQC Procedural Blank	C-10038	ND	0.01	0.02	mg/L								
18488-BS1	QAQC Procedural Blank	C-10038	0.49	0.01	0.02	mg/L	0.5	0	98	70 - 130%	PASS			
18488-BS2	QAQC Procedural Blank	C-10038	0.5	0.01	0.02	mg/L	0.5	0	100	70 - 130%	PASS	2	30 PASS	
18489-MS1	MLMRP-003-10_ACAD-0	C-10038	0.87	0.01	0.02	mg/L	0.5	0.4	94	70 - 130%	PASS			
18489-MS2	MLMRP-003-10_ACAD-0	C-10038	0.88	0.01	0.02	mg/L	0.5	0.4	96	70 - 130%	PASS	2	30 PASS	
18489-R2	MLMRP-003-10_ACAD-0	C-10038	0.4	0.01	0.02	mg/L						2	30 PASS	
Total Phosphorus			**Method: SM 4500-P E**			**Fraction: NA**			**Prepared: 21-Dec-12**			**Analyzed: 26-Dec-12**		
18488-B1	QAQC Procedural Blank	C-10052	ND	0.016	0.05	mg/L								
18488-BS1	QAQC Procedural Blank	C-10052	0.295	0.016	0.05	mg/L	0.3	0	98	70 - 130%	PASS			
18488-BS2	QAQC Procedural Blank	C-10052	0.287	0.016	0.05	mg/L	0.3	0	96	70 - 130%	PASS	2	30 PASS	
18489-MS1	MLMRP-003-10_ACAD-0	C-10052	0.741	0.016	0.05	mg/L	0.3	0.453	96	70 - 130%	PASS			
18489-MS2	MLMRP-003-10_ACAD-0	C-10052	0.725	0.016	0.05	mg/L	0.3	0.453	91	70 - 130%	PASS	5	30 PASS	
18489-R2	MLMRP-003-10_ACAD-0	C-10052	0.456	0.016	0.05	mg/L						1	30 PASS	
Total Suspended Solids			**Method: SM 2540 D**			**Fraction: NA**			**Prepared: 17-Dec-12**			**Analyzed: 18-Dec-12**		
18488-B1	QAQC Procedural Blank	C-10048	ND	0.5	1	mg/L								

SUBCONTRACT REPORT

Associated Laboratories
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Info@associatedlabs.com

ACCREDITED IN ACCORDANCE WITH nelac
04232CA

Client:	PHYSIS Environmental Laboratories, Inc.	Lab Request:	315561
Address:	1904 E. Wright Circle Anaheim, CA 92806	Report Date:	12/26/2012
		Date Received:	12/17/2012
Attn:	Misty Mercier	Client ID:	13622

Comments: #1206006-003

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods. Methods accredited by NELAC are indicated on the report. This cover letter is an integral part of the final report.

Sample #	Client Sample ID
315561-001	MLMRP-003-10_ACAD-01
315561-002	MLMRP-003-3O_VAND-02
315561-003	MLMRP-003-TAHOE-04
315561-004	MLMRP-003-DUPREE-06

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Lab Director

NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 45 days from date reported.

TESTING & CONSULTING
Chemical
Microbiological
Environmental

Matrix: Water | Client: PHYSIS Environmental Laboratories, Inc. | Collector: Client
Sampled: 12/13/2012 08:22 | Site: | Notes:
Sample #: 315561-001 | Client Sample #: MLMRP-003-10_ACAD-01

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 351.2	Prep Method: Method					QCBatchID:	QC1132509
Total Kjeldahl Nitrogen	1.21	1	0.4	mg/L	12/18/12	trinh	

Matrix: Water | Client: PHYSIS Environmental Laboratories, Inc. | Collector: Client
Sampled: 12/13/2012 09:57 | Site: | Notes:
Sample #: 315561-002 | Client Sample #: MLMRP-003-3O_VAND-02

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 351.2	Prep Method: Method					QCBatchID:	QC1132509
Total Kjeldahl Nitrogen	3.17	1	0.4	mg/L	12/18/12	trinh	

Matrix: Water | Client: PHYSIS Environmental Laboratories, Inc. | Collector: Client
Sampled: 12/13/2012 08:50 | Site: | Notes:
Sample #: 315561-003 | Client Sample #: MLMRP-003-TAHOE-04

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 351.2	Prep Method: Method					QCBatchID:	QC1132509
Total Kjeldahl Nitrogen	ND	1	0.4	mg/L	12/18/12	trinh	

Matrix: Water | Client: PHYSIS Environmental Laboratories, Inc. | Collector: Client
Sampled: 12/13/2012 08:27 | Site: | Notes:
Sample #: 315561-004 | Client Sample #: MLMRP-003-DUPREE-06

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 351.2	Prep Method: Method					QCBatchID:	QC1132509
Total Kjeldahl Nitrogen	1.27	1	0.4	mg/L	12/18/12	trinh	

ND = Not Detected or < RDL

RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES QC SUMMARY FOR LAB REQUEST #315561

QCBatchID: QC1132509	**Analyst:** trinh	**Method:** EPA 351.2
Matrix: Water	**Analyzed:** 12/18/2012	**Instrument:** CHEM (group)

Blank Summary

Analyte	Blank Result	Units		RDL	Notes	
QC1132509MB1						
Total Kjeldahl Nitrogen	ND	mg/L		0.4		

Lab Control Spike/ Lab Control Spike Duplicate Summary

Analyte	Spike Amount LCS	Spike Amount LCSD	Spike Result LCS	Spike Result LCSD	Units	Recoveries LCS	Recoveries LCSD	RPD	Limits %Rec	Limits RPD	Notes
QC1132509LCS1											
Total Kjeldahl Nitrogen	2.5		2.75		mg/L	110			80-120		

Matrix Spike/Matrix Spike Duplicate Summary

Analyte	Sample Amount	Spike Amount MS	Spike Amount MSD	Spike Result MS	Spike Result MSD	Units	Recoveries MS	Recoveries MSD	RPD	Limits %Rec	Limits RPD	Notes
QC1132509MS1, QC1132509MSD1												**Source: 315334-001**
Total Kjeldahl Nitrogen	1.0	12.5	12.5	13.6	13.4	mg/L	101	99	1.5	80-120	20	

ND = Not Detected or < RDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

Notes and Definitions

B	Analyte was present in an associated method blank. Associated sample data was reported with qualifier.
C	Laboratory Contamination.
D	The sample duplicate RPD was not within control limits, the sample data was reported without further clarification.
DF	Dilution Factor
DW	Sample result is calculated on a dry weigh basis
J	Reported value is estimated
L	The laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) was out of control limits. Associated sample data was reported with qualifier.
M	The matrix spike (MS) or matrix spike duplicate (MSD) was not within control limits due to matrix interference. The associated LCS and/or LCSD was within control limits and the sample data was reported without further clarification.
MDL	Method Detection Limit
NC	The analyte concentration in the sample exceeded the spike level by a factor of four or greater, spike recovery and limits do not apply.
ND	Analyte was not detected or was less than the detection limit.
P	Sample was received without proper preservation according to EPA guidelines.
RDL	Reporting Detection Limit
S	The surrogate recovery was out of control limits due to matrix interference. The associated method blank surrogate recovery was within control limits and the sample data was reported without further clarification.
T	Sample was extracted/analyzed past the holding time.
T2	Sample was analyzed ASAP but received and analyzed past the 15 minute holding time.

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.

CHAIN of CUSTODY

SEND TO: ASL
315561

COMPANY NAME: Physis Environmental Laboratories, Inc.	EMAIL: sc@physislabs.com	PROJECT NAME / NUMBER: 1206006-003	COC PAGE: 1 of 1
PROJECT MANAGER: Misty Mercier	FAX: 714 602-5321	PO #:	PHYSIS SOS #: 1206001
COMPANY ADDRESS: 1904 E. Wright Circle, Anaheim, CA 92806	PHONE: 714 602-5320 office; 714 335-5918 cell	SAMPLED BY:	TYPE OF ICE USED: ☐ WET ☐ BLUE ☐ DRY
			SHIPPED VIA: ☐ FEDEX ☐ UPS ☐ USPS ☐ Client ☐ Physis ☐ other

TURNAROUND TIME: ☑ STANDARD ☐ RUSH business days

REPORT FORMAT: ☑ PDF/EDD ☐ SWAMP EDD ☐ other

SPECIAL INSTRUCTIONS:
please report down the MDL
need MS/MSD

PHYSIS MATRIX CODES
SW = seawater FW = freshwater RW = rainwater
WW = wastewater DW = drinking water
S = sediment T = tissue E = extract O = other (specify)

REQUESTED ANALYSES

	SAMPLE ID	SAMPLE DESCRIPTION	SAMPLE date	SAMPLE time	physis matrix code	# of bottles	TKN																
1	MLMRP-003-10_ACAD-01		12/13/12	8:22	FW	1	X																
2	MLMRP-003-3O_VAND-02		12/13/12	9:57	FW	1	X																
3	MLMRP-003-TAHOE-04		12/13/12	8:50	FW	1	X																
4	MLMRP-003-DUPREE-06		12/13/12	8:27	FW	1	X																
5																							
6																							
7																							
8																							
9																							
10																							

RELINQUISHED BY print	signature	company	date & time	RECEIVED BY print	signature	company	date & time
E. Vaki	E Vaki	PHYSIS	12/13/12 1512				
		ASL	12/17/12 1520	Daniel Lee		ASL	12/17/12 1540

ASSOCIATED LABORATORIES
806 North Batavia – Orange, California 92868 – 714-771-6900 *FAX 714-538-1209*

SAMPLE ACCEPTANCE CHECKLIST

Section 1
Client: Physis
Date Received: 12/19/12
Sample(s) received in cooler: (Yes) No (Skip Section 2)
Shipping Information: _____
Project: _____
Sampler's Name: Yes (No)

Section 2
Was the cooler packed with: ✓ Ice ___ Ice Packs ___ Bubble Wrap ___ Styrofoam ___ Paper ___ None ___ Other _____
Cooler or box temperature: 3°C

(Acceptance range is 0 to 6 Deg. C.)

Section 3	YES	NO	N/A
Was a COC received?	✓		
Is it properly completed? (IDs, sampling date and time, signature, test)	✓		
Were custody seals present?		✓	
If Yes – were they intact?			✓
Were all samples sealed in plastic bags?		✓	
Did all samples arrive intact? If no, indicate below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were correct containers used for the tests required?	✓		
Was a sufficient amount of sample sent for tests indicated?	✓		
Was there headspace in VOA vials?			✓
Were the containers labeled with correct preservatives?	✓		
Was total residual chlorine measured (Fish Bioassay samples only)? *			✓

*: If the answer is no, please inform Fish Bioassay Dept. immediately.

Section 4
Explanations/Comments

Section 5
Was Project Manager notified of discrepancies: Y / N N/A

Completed By: _____ Date: 12/17/12

Created on 7/6/2012 1:29:00 PM

CHAIN OF CUSTODY

1206006-003

Larry Walker Associates
707 Fourth Street, Suite 200 Davis, CA 95616 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 12-13-12 Lab ID:

Destination Lab: Physis Environmental Laboratories, I
Misty Mercier
Address: 1904 East Wright Circle
Anaheim, CA 92806
Phone: (714) 602-5320 x202
Fax: (714) 602-5321
Sampled By: LWA
LWA Contact: Mitch Mysliwiec
Project: Machado Lake Nutient TMDL Sampling 2012

LARRY WALKER ASSOCIATES

Client Sample Id	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Ammonia-N (EPA 350.1)	Total Phosphate (SM 4500-P E or F)	Total Dissolved Solids (SM 2540C)	Total Suspended Solids (SM 2540D)	Total Kjeldahl Nitrogen (EPA 351.1)	Nitrate-N (EPA 300.0)	Nitrite-N (EPA 300.0)	Total Nitrogen (Calc)	Dissolved Phosphorus (SM 450-P E or F)	Total Orthophosphate as P (SM 450-P E or F)	10 Business day TAT / Notes
MLMRP-003-1O_ACAD-01	12-13	0822	Surface Water	1	10-Liter PE	None	X	X	X	X	X	X	X	X	X	X	MS/MSD=NO ON TSS/TDS MDB
MLMRP-003-3O_VAND-02	12-13	0957	Surface Water	1	10-Liter PE	None	X	X	X	X	X	X	X	X	X	X	
MLMRP-003-TAHOE-03	12-13	0850	Surface Water	1	250-mL PE	None						X	X	X	X	X	
MLMRP-003-TAHOE-04	12-13	0850	Surface Water	1	250-mL PE	H2SO4					X						
MLMRP-003-TAHOE-05	12-13	0850	Surface Water	1	500-mL Amber	H2SO4	X	X									
MLMRP-003-DUPREE-06	12-13	0827	Surface Water	1	10-Liter PE	None	X	X	X	X	X	X	X	X	X	X	
MLMRP-003-2O_SCBG-07	—	—	Surface Water	1	10-Liter PE	None	X	X	X	X	X	X	X	X	X	X	

Sender Comments:
Please PDF signed COC's upon completion of sample login to Greg Reide at gregr@lwa.com

PLEASE CALL IF THERE ANY QUESTIONS

Laboratory Comments:

Relinquished By (1):
Signature: Gregory Reide
Print: GREGORY REIDE
Organization: LWA, Inc
Date: 12-13-2012 Time: 10:50

Relinquished By (2):
Date: Time:

Received By (1):
Signature: Mark D. Baker
Print: MARK D. BAKER
Organization: Physis
Date: 12-13-2012 Time: 10:50

Received By (2):
Date: Time:

Crew: LWA-

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.

PHYSIS PROJECT ID
1206006-003

SAMPLE RECEIPT SUMMARY

CLIENT: LWA Date Received: 12/13/12 Received By: MB Inspected By: RGH

COURIER
☑ PHYSIS ☐ CLIENT ☐ FEDEX ☐ UPS
start ____ end ____ ☐ OTHER: ____

COOLER
☑ COOLER ☐ BOX total # 2
☐ OTHER: ____

TEMPERATURE
5.4 °C
☑ WET ICE ☐ BLUE ICE
☐ DRY ICE ☐ NONE

SAMPLE INTEGRITY UPON RECEIPT

1. COC(s) included and completely filled out..... *YES*
2. All sample containers arrived intact..... *YES*
3. All samples listed on COC(s) are present..... *YES*
4. Information on containers consistent with information on COC(s)..... *YES*
5. Correct containers and volume for all analyses indicated..... *YES*
6. All samples received within method holding time..... *YES*
7. Correct preservation used for all analyses indicated..... *YES*

NOTES

Reset Form

1904 E. Wright Circle, Anaheim CA 92806 (714) 602-5320 main / (714) 602-5321 fax

Print Form